

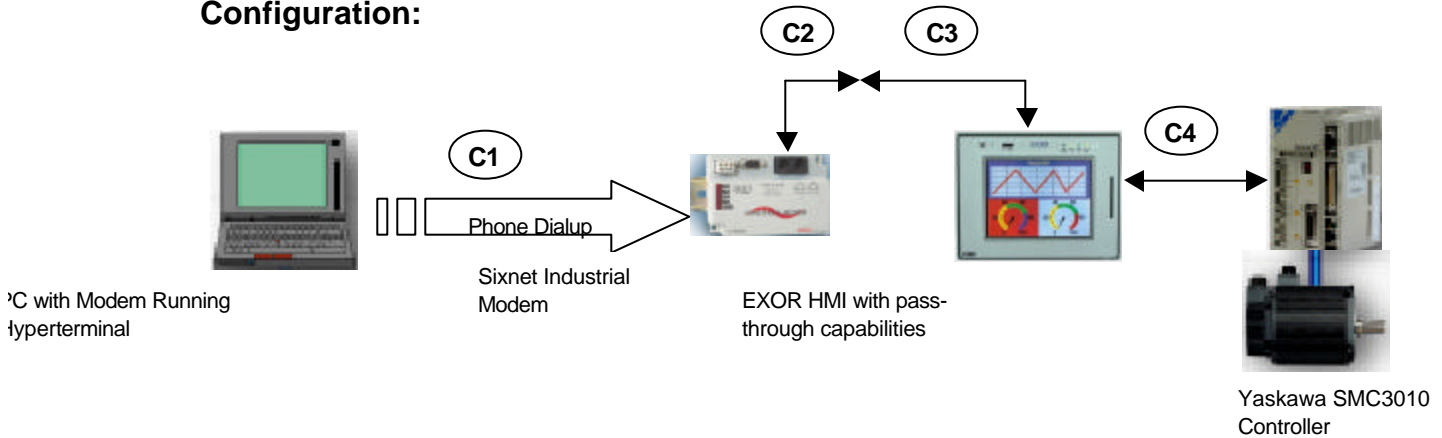
Subject: Remote Modem Connection to SMC via HMI

Product: SMC3010, HMI

Status:

Summary: This document summarizes how to connect to the LegendMC (SMC-3010) product remotely through an EXOR HMI. The same setup technique can also apply to the SMC2000 product.

Configuration:



- C1 = PC Modem to Sixnet Modem phone line connection (standard phone cable)
- C2 = Sixnet Serial comm port to C3 cable (standard DB9 Null-Modem Cable)
- C3 = C2 cable to PC/Printer port on HMI (cable part number: HMI-CPROG-20)
- C4 = HMI PLC port to SMC3010 CN6 port (cable part number: HMI-CSMC-13)

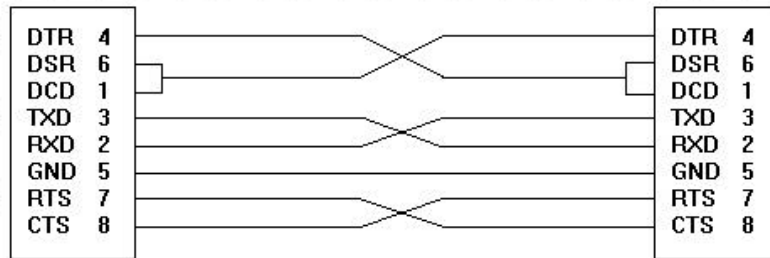
Wiring Details:

C1 Cable Details: Use standard phone line patch cables with RJ connectors

C2 Cable Details:

Sixnet VT-Modem Side (DB-9 pin) C3 Cable Connection Side (DB-9pin)

9 PIN to 9 PIN Serial Cable



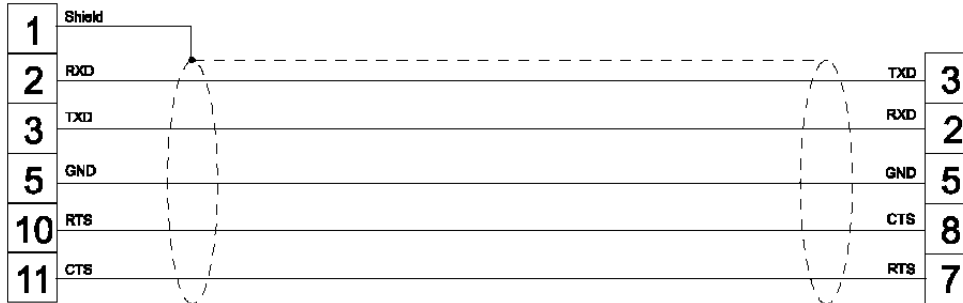
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C3 Cable Details:

Part number: HMI-CPROG-20

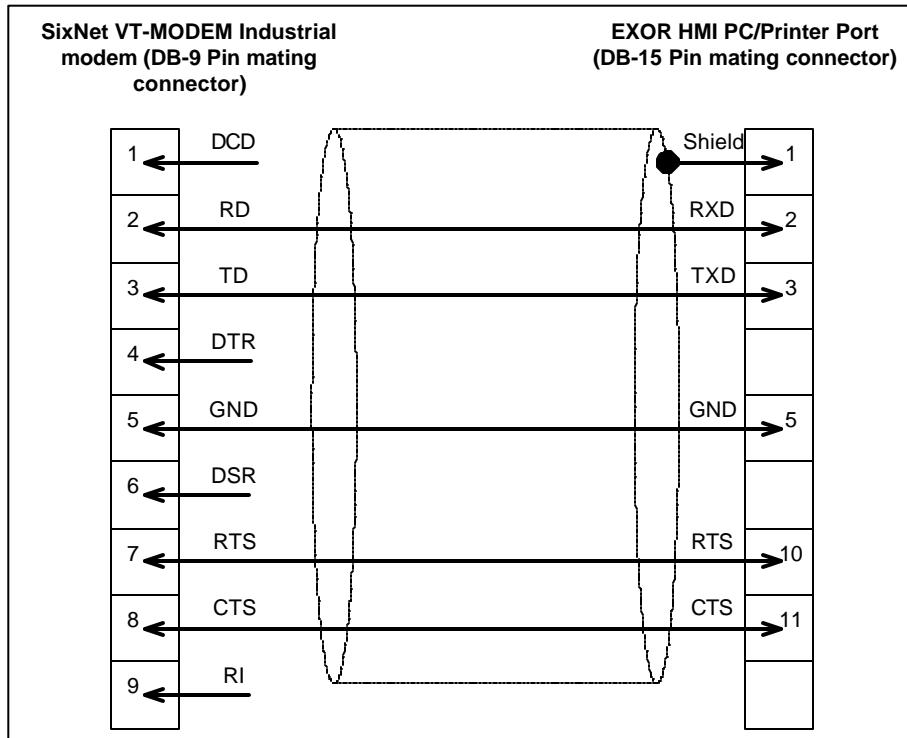
HMI PC Port Side (DB-15 pin)

C2 Mating Side (DB-9 socket)



C2 & C3 Combined cable details:

(to reduce number of connections, it may be useful to make a combined cable)



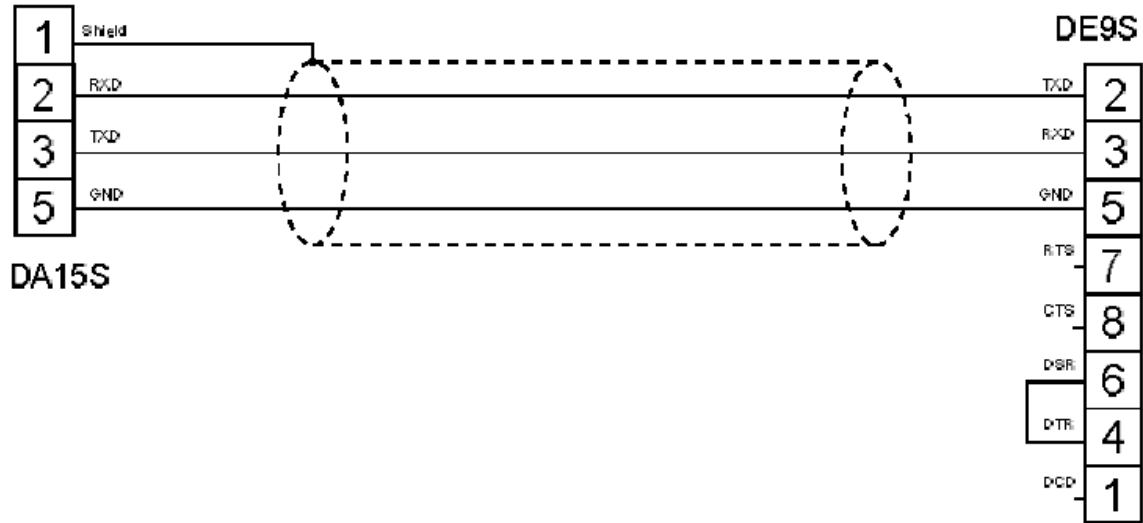
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C4 Cable Details:

Cable part#: HMI-CSMC-13

HMI PLC port
 (DB-15 socket)

SMC-3010 CN6 connector
 (DB-9 socket)

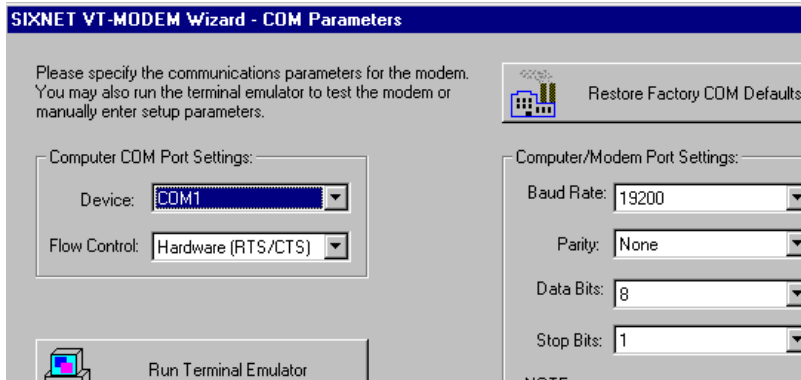


Modem Setup:

In this example, the SixNet VT-Modem Industrial Modem was used. Sixnet has a “VT-Modem Setup Wizard” software utility to assist in the setup. The setup was then saved to file called SMCmodem.6ms, this file can be loaded for use or a new one can be created from scratch.

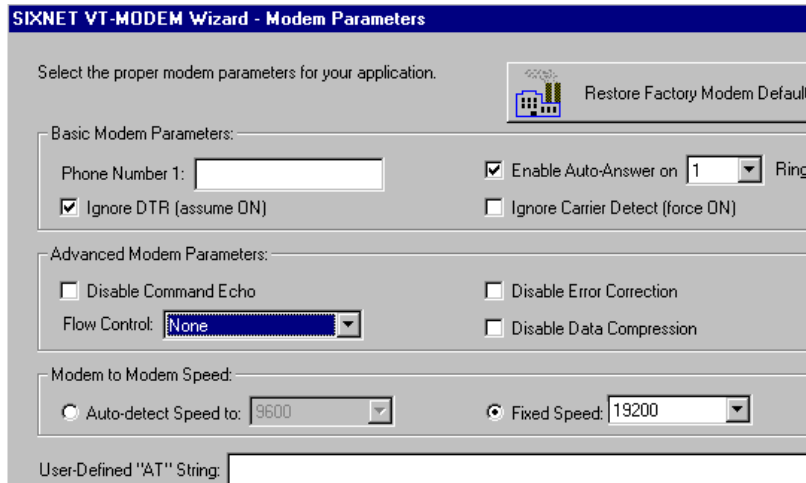
The following screens show the setup used for the Modem Setup.

On this screen, set the protocol to 19.2k, no parity, 8 databits, 1 stop bits



The screenshot shows the 'SIXNET VT-MODEM Wizard - COM Parameters' window. It contains two main sections: 'Computer COM Port Settings' and 'Computer/Modem Port Settings'. In the 'Computer COM Port Settings' section, the 'Device' is set to 'COM1' and 'Flow Control' is set to 'Hardware (RTS/CTS)'. In the 'Computer/Modem Port Settings' section, the 'Baud Rate' is set to '19200', 'Parity' is set to 'None', 'Data Bits' is set to '8', and 'Stop Bits' is set to '1'. There is a 'Run Terminal Emulator' button at the bottom left and a 'Restore Factory COM Defaults' button at the top right.

On this screen, disable flow control, set fixed modem speed to 19.2k. Note that hardware handshaking is NOT used between the HMI and the SMC-3010.



The screenshot shows the 'SIXNET VT-MODEM Wizard - Modem Parameters' window. It contains three main sections: 'Basic Modem Parameters', 'Advanced Modem Parameters', and 'Modem to Modem Speed'. In the 'Basic Modem Parameters' section, 'Phone Number 1' is empty, 'Ignore DTR (assume DN)' is checked, and 'Enable Auto-Answer on 1 Ring' is checked. In the 'Advanced Modem Parameters' section, 'Disable Command Echo', 'Disable Error Correction', and 'Disable Data Compression' are unchecked, and 'Flow Control' is set to 'None'. In the 'Modem to Modem Speed' section, 'Auto-detect Speed to: 9600' is selected and 'Fixed Speed: 19200' is also selected. There is a 'Restore Factory Modem Default' button at the top right and a 'User-Defined "AT" String:' field at the bottom.

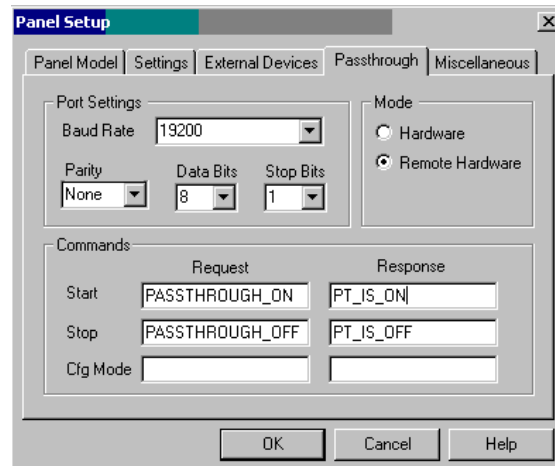
SMC-3010 Setup:

Connect SMC-3010 controller module to the Legend amplifier and motor. Verify no errors.

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HMI Setup:

The HMI should be set up with the Pass-through function enabled, and the Galil/Yaskawa SMC driver selected (with protocol set 19.2k baud, no parity, 8 databits, 1 stop bit). An example of this setup can be found in Designer project file: SMC_PT11.PRJ. Its possible to verify the Pass-through function configuration from the Project/Panel Setup selection. The diagram below indicates the commands for turning on and off the function remotely. Also note the port settings match the SMC-3010 settings, and that remote hardware has been selected.



Hyper-terminal Setup and use:

From Hyper-terminal, set the port speed to 19.2k baud, then proceed to dial the phone number that the remote Sixnet modem is attached to. The file: SMC_DialTerminal.ht is available with the correct default settings (changing phone number will be necessary).

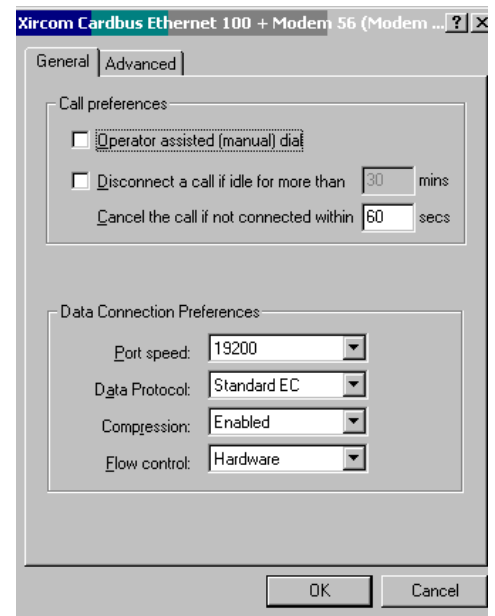
The remote modem will automatically connect, after which it will be possible to type in commands to enable pass through.

Type the following in capital letters: "PASSTHROUGH_ON"

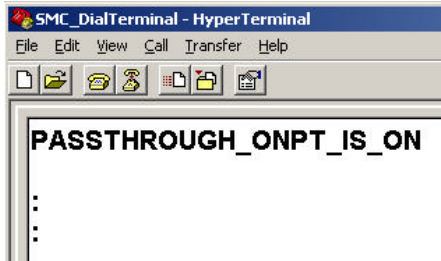
Immediately following the characters "PT_IS_ON" will be fed to the screen from the HMI indicating pass through mode is on. The HMI Pass-through message word should indicate that the HMI unit is in Pass-through mode. Pressing <Enter> a couple of times will result in a "." mark to show up on each line. This should indicate that you are talking to the SMC-3010. At this point all commands for the SMC-3010 are accessible, including file upload and download within the hyperterminal application.

When done, type the following in capital letters:
"PASSTHROUGH_OFF"

Immediately following the characters "PT_IS_OFF" will be fed to the screen from the HMI, and the HMI pass through message word will indicate that the HMI unit is out of pass-through mode. The "bolt" LED indicator on the HMI should be solid indicating it has returned to normal communications with the SMC-3010.



TECHNICAL NOTE
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